

REMARKS

Claims 1 and 4-6 are pending in the application. Claim 1 has been amended herein. Claims 2-3 have been canceled herein without prejudice. Favorable reconsideration of the application, as amended, is respectfully requested.

I. REJECTIONS OF CLAIMS 1-6 UNDER 35 U.S.C. §§ 102 AND 103

Claims 1 and 4-6 stand rejected under 35 U.S.C. § 102(e) based on Taguchi (U.S. Patent No. 6,507,271). Claims 1 and 4-6 stand rejected under 35 U.S.C. § 102(b) based on Hatayama (U.S. Patent No. 5,475,359). Claims 2-3 stand rejected under 35 U.S.C. § 103(a) based on a combination of Taguchi and Komatsu (U.S. Patent No. 6,172,595). All of the currently pending claims are believed to be allowable over the cited art for at least the following reasons.

Independent claim 1 has been amended to further clarify one of the aspects of the invention. Claim 1 now contains all limitations of claims 2 and 3, and further recites additional features. Specifically, claim 1 recites that "the average particle size of the second reinforcing material is not less than 0.1 μm but less than 1 μm ," and "the second reinforcing material comprises spherical particles." Claim 1 further requires that "the second resistor layer comes into contact with the sliding contact," and that "the second reinforcing material is thermal black."

By contrast, the resistor shown in the Taguchi patent is a composite of two resistor layers containing carbon fibers. The Taguchi patent describes an embodiment in which the particle diameter of the carbon fiber in the upper layer (i.e., the layer closer to the slider) is larger than that in the lower layer (see, for example, claim 3 of the Taguchi patent). This structure is exact opposite to that of the claimed invention. Further, the Taguchi reinforcing material in the upper layer is carbon fiber, not thermal black as claimed. The diameter and the shape of the particles shown in Taguchi are also different from the claimed features. Therefore, Taguchi cannot be said to anticipate the above-discussed claimed features.

In the Hatayama patent, the resistor layer that contacts the slider does not contain a reinforced material. Further, the Hatayama patent is silent on use of thermal black as a reinforcing material. Such use is one of the claimed features of the invention. Thus, Hatayama also fails to teach or suggest the claimed features.

Example 2 of the Komatsu patent shows a resistor containing "particles of approximately in the range of from 1 to 2 μm ." These particles are prepared by pulverizing carbon fibers in a ball mill. However, since carbon fibers are amorphous, they can be pulverized into fine particles in ball mills, but their shape is not spherical. Thus, the pulverized carbon fibers shown in Komatsu are not spherical as claimed. It is noted that independent claim 1 recites the spherical

second reinforcing material. In addition, Komatsu's carbon fibers are not thermal black. Therefore, Komatsu fails to cure the deficiencies of Taguchi, and thus, combination of Taguchi and Komatsu does not render independent claim 1 obvious.

According to one specific embodiment of the invention, the surface of the resistor that comes into contact with the slider is smooth since the resistor layer in contact with the slider is reinforced by thermal black composed of spherical particles. This prevents the slider from wearing, and thus, prolongs lifetime of the slider and decreases the contact resistance between the resistor and the slider. See, for example, page 9, lines 21-28 of the present specification.

In view of the foregoing, independent claim 1 and its dependent claims are believed to be allowable over the cited art. Withdrawal of the rejections is respectfully requested.

II. CONCLUSION

Applicant believes that all pending claims are in condition for allowance, and respectfully requests a Notice of Allowance at an early date. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 510-843-6200, ext. 245.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP



Haruo Yawata
Limited Recognition under 37 CFR § 10.9(b)

P.O. Box 778
Berkeley, CA 94704-0778
Tel: 510-843-6200, ext. 245

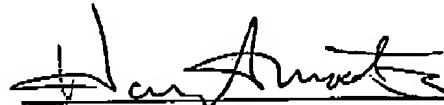
**BEFORE THE OFFICE OF ENROLLMENT AND DISCIPLINE
UNITED STATES PATENT AND TRADEMARK OFFICE**

LIMITED RECOGNITION UNDER 37 CFR § 10.9(b)

Mr. Haruo Yawata is hereby given limited recognition under 37 CFR § 10.9(b) as an employee of Beyer Weaver & Thomas, LLP to prepare and prosecute patent applications wherein the patent applicant is the client of Beyer Weaver & Thomas, LLP, and the attorney or agent of record in the applications is a registered practitioner who is a member of Beyer Weaver & Thomas, LLP. This limited recognition shall expire on the date appearing below, or when whichever of the following events first occurs prior to the date appearing below: (i) Mr. Haruo Yawata ceases to lawfully reside in the United States, (ii) Mr. Haruo Yawata's employment with Beyer Weaver & Thomas, LLP ceases or is terminated, or (iii) Mr. Haruo Yawata ceases to remain or reside in the United States on an H-1 visa.

This document constitutes proof of such recognition. The original of this document is on file in the Office of Enrollment and Discipline of the U.S. Patent and Trademark Office.

Expires: August 28, 2004



Harry I. Moatz
Director of Enrollment and Discipline